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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/716,073	11/17/2003	Gary H. Bray	02-3703 [370024-00031]	4789

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EXAMINER
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MORILLO, JANEL COMBS

ART UNIT	PAPER NUMBER
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1742

DATE MAILED: 04/30/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/716,073

Applicant(s)

BRAY, GARY

Examiner

Janelle Combs-Morillo

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1742

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 17 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. §§ 119 and 120**

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 13) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application) since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.  
a) ☐ The translation of the foreign language provisional application has been received.
- 14) ☒ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121 since a specific reference was included in the first sentence of the specification or in an Application Data Sheet. 37 CFR 1.78.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_ 6) ☐ Other: \_\_\_\_\_

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## DETAILED ACTION

### *Claim Rejections - 35 USC § 103*

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shahani et al (US 6,027,582).

#### *Independent claims 1, 5, 9*

Shahani teaches a rolled, forged, or extruded aluminum alloy >60 mm thick (column 12 line 31) suitable for structural elements of aircraft comprising (in weight%): 5.7-8.7% Zn, 1.7-2.5% Mg, 1.2-2.2% Cu, <0.14% Fe, <0.11% Si, 0.05-0.15% Zr, balance aluminum (column 3 lines 38-51), which overlaps the instant ranges of Zn, Mg, Cu, Fe, Si, and Zr. Shahani does not teach any examples within the instant claim ranges, however, Shahani does a substantially overlapping alloy composition, as stated above. With respect to the evidence in the instant specification that low Si and Fe values lead to improved fatigue failure, etc., the examiner points out that Shahani teaches low Si and Fe, within the instant limits, of 0.04% Si and 0.09% Fe in the example on Table 2. Shahani teaches that the instant alloy results in high mechanical strength and toughness as well as "good fatigue behavior" without any harmful effect on stress corrosion resistance.

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Because the prior art teaches a substantially overlapping alloy composition with “good fatigue behavior” (column 3 line 35), it is held to be within the scope of the alloy of Shahani to exhibit “improved fatigue failure resistance”, substantially as presently claimed.

It would have been obvious to one of ordinary skill in the art to select any portion of the range, including the claimed range, from the broader range disclosed in the prior art, because the prior art finds that said composition in the entire disclosed range has a suitable utility.

Overlapping ranges have been held to be a prima facie case of obviousness, see MPEP § 2144.05.

*Dependent claims 2-4, 6-8, 10*

Concerning dependent claims 2 and 3, as stated above, Shahani teaches an overlapping alloy composition.

Concerning dependent claims 4 and 6, Shahani teaches a rolled, forged, or extruded aluminum alloy (column 12 line 30).

Dependent claim 7 mentions the limitation “plate suitable for use as an upper wing member”, which is held to define merely an intended use for the alloy composition. Because the prior art teaches an alloy used for structural aerospace plates, said alloy appears to be capable of performing said intended use as recited in the preamble. See, e.g., *In re Schreiber*, 128 F.3d 1473, 1477, 44 USPQ2d 1429, 1431 (Fed. Cir. 1997), MPEP 2111.02.

Concerning dependent claim 8, Shahani teaches said alloy is solution heat treated and artificially aged (see abstract).

Concerning dependent claim 10, because the prior art teaches a substantially overlapping alloy composition with “good fatigue behavior” (column 3 line 35), then one of ordinary skill in

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the art would expect the alloy of Shahani to exhibit “improved fatigue failure resistance relative to a 7055 product”, substantially as presently claimed. The examiner asserts that where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a prima facie case of either anticipation or obviousness has been established. *In re Best*, 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). “When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not.” *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990).

3. Claims 1-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shahani et al (US 6,027,582) in view of Kuhlman et al (US 5,277,719).

As stated above, Shahani teaches a substantially overlapping alloy composition, with overlapping ranges of Zn, Mg, Cu, Fe, Si, and Zr. Shahani teaches that the instant alloy results in high mechanical strength and toughness as well as “good fatigue behavior” without any harmful effect on stress corrosion resistance. Shahani does not specify that the instant low Fe and Si ranges improve fatigue lifetimes.

However, Kuhlman teaches that low Fe and Si ranges, such as 0.01-0.05% Fe, and 0.01-0.03% Si (column 18 lines 57-58) improve fatigue lifetimes (column 2 lines 34-36) for Al-Zn-Cu-Mg alloys that overlap the ranges of the invention and Shahani. It would have been obvious to one of ordinary skill in the art to lower the Fe and Si ranges taught by Shahani to 0.01-0.05% Fe and 0.01-0.03% Si because Kuhlman teaches said Fe and Si ranges lead to improve fatigue lifetimes (column 2 lines 34-36) for Al-Zn-Cu-Mg alloys.

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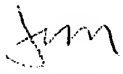
With respect to the evidence in the instant specification that low Si and Fe values lead to improved fatigue failure, etc., the examiner points out that the combination of Shahani and Kuhlman teaches that low Si and Fe improve fatigue lifetimes.


***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Janelle Combs-Morillo whose telephone number is (571) 272-1240. The examiner can normally be reached on 8:30 am- 6:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Roy King can be reached on (571) 272-1244. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0661.

jcm   
April 22, 2004

  
GEORGE WYSZOMIERSKI  
PRIMARY EXAMINER